

**CLAIMS**

1. A radio-capable device, comprising:
  - a data collection unit for collecting data, and having a normal operating mode, in which it is enabled for collecting data, and a low-power mode;
  - a radio communication unit for transmitting over a radio channel data collected by the data collection unit; and
  - a radio channel sensor coupled to the radio communication unit for sensing at least one physical characteristic of the radio channel, and arranged to cause the data collection unit to enter the normal operating mode if the physical characteristic meets a pre-set threshold.
2. A radio-capable device as claimed in claim 1, wherein the radio channel sensor is arranged to sense the said characteristic by means of at least one antenna of the radio communication unit.
3. A radio-capable device as claimed in claim 1 or 2, wherein the data collection unit is capable of collecting user inputs.
4. A radio-capable device as claimed in claim 3, wherein the data collection unit comprises an optical sensor for sensing movement of the device relative to a surface external to the device.
5. A radio-capable device as claimed in claim 4, wherein the optical sensor is fully or partially disabled in the low-power mode.
6. A radio-capable device as claimed in any of claims 3 to 5, wherein the device is a mouse or a trackball.
7. A radio-capable device as claimed in any preceding claim, wherein the physical characteristic is the tendency of the channel to return to the radio communication unit radio signals transmitted by the radio communication unit.

8. A radio-capable device as claimed in any preceding claim, wherein the physical characteristic is one or more of reflection of radio signals transmitted by the device, absorption of signals transmitted to or by the device, and de-tuning of one or more antennas of the device.
9. A radio-capable device as claimed in claim 7 or 8, wherein the radio communication unit comprises a transmitter and a receiver which share an antenna and the radio channel sensor is arranged to sense the level of signals transmitted by the transmitter that are received by the receiver.
10. A radio-capable device as claimed in claim 7 or 8, wherein the radio communication unit comprises a transmitter having a first antenna and a receiver having a second antenna and the radio channel sensor is arranged to sense the level of signals transmitted by the transmitter that are received by the receiver.
11. A radio-capable device as claimed in claim 9 or 10, wherein the characteristic is a change in the sensed level.
12. A radio-capable device as claimed in claim 11, wherein the characteristic is a change in the sensed level of greater than a pre-set amount in a pre-set time.
13. A radio-capable device as claimed in any preceding claim, wherein the device is a wireless device.
14. A radio-capable device as claimed in any preceding claim, wherein the device is powered by a battery.